

AMENDMENTS TO THE CLAIMS

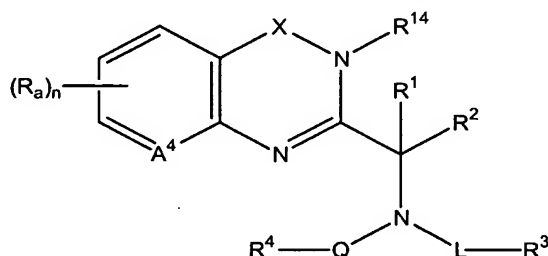
Please cancel claims 156-159, 162-170, 173-190, 193-197, and 202 without prejudice.

Please amend claims 136, 138, 139, and 154 as shown below.

Please add new claims 205-226 as shown in the following list of claims:

1.-135. (Canceled).

136. (Currently Amended) A compound having the formula:



or a pharmaceutically acceptable salt thereof wherein:

A^4 is N;

X is $-C(O)-$ or $-CH_2-$;

R^1 and R^2 are members independently selected from the group consisting of H and (C_1-C_4) alkyl;

R^3 is a member selected from the group consisting of hydroxy, (C_1-C_8) alkoxy, amino, (C_1-C_8) alkylamino, di (C_1-C_8) alkylamino, (C_2-C_8) heteroalkyl, (C_3-C_9) heterocyclyl, (C_1-C_8) acylamino, amidino, guanidino, ureido, cyano, heteroaryl, $-CONR^9R^{10}$ and $-CO_2R^{11}$;

R^4 is a member selected from the group consisting of (C_1-C_{20}) alkyl, (C_2-C_{20}) heteroalkyl, heteroaryl, aryl, heteroaryl (C_1-C_6) alkyl, heteroaryl (C_2-C_6) heteroalkyl, aryl (C_1-C_6) alkyl and aryl (C_2-C_6) heteroalkyl;

each R^9 , R^{10} and R^{11} is independently selected from the group consisting of H, (C_1-C_8) alkyl, (C_2-C_8) heteroalkyl, heteroaryl, aryl, heteroaryl (C_1-C_6) alkyl, heteroaryl (C_2-C_8) heteroalkyl, aryl (C_1-C_8) alkyl and aryl (C_2-C_8) heteroalkyl;

R^{14} is a substituted or unsubstituted aryl or heteroaryl member selected from the group consisting of phenyl, pyridyl, thiazolyl, thienyl and pyrimidinyl;

Q is $-C(O)-$;

L is (C_1-C_8) alkylene;

the subscript n is an integer from 0 to 4; and

each R_a is independently selected from the group consisting of halogen, -OR', -OC(O)R', -NR'R'', -SR', -R', -CN, -NO₂, -CO₂R', -CONR'R'', -C(O)R', -OC(O)NR'R'', -NR''C(O)R', -NR''C(O)₂R', -NR'-C(O)NR''R''', -NH-C(NH₂)=NH, -NR'C(NH₂)=NH, -NH-C(NH₂)=NR', -S(O)R', -S(O)₂R', -S(O)₂NR'R'', -N₃, -CH(Ph)₂, perfluoro(C₁-C₄)alkoxy and perfluoro(C₁-C₄)alkyl, wherein R', R'' and R''' are each independently selected from the group consisting of H, (C₁-C₈)alkyl, (C₂-C₈)heteroalkyl, unsubstituted aryl, unsubstituted heteroaryl, (unsubstituted aryl)-(C₁-C₄)alkyl and (unsubstituted aryl)oxy-(C₁-C₄)alkyl.

137. (Previously Added) The compound of Claim 136, wherein X is -C(O)-.

138. (Currently Amended) The compound of Claim 136, wherein R¹⁴ is a substituted or unsubstituted phenyl. ~~member selected from the group consisting of phenyl, pyridyl, thiazolyl, thienyl and pyrimidinyl.~~

139. (Currently Amended) The compound of Claim 137, wherein R¹⁴ is a substituted or unsubstituted phenyl. ~~member selected from the group consisting of phenyl, pyridyl, thiazolyl, thienyl and pyrimidinyl.~~

140. (Previously Added) The compound of Claim 136, wherein R³ is (C₁-C₈)acylamino.

141. (Previously Added) The compound of Claim 136, wherein R⁴ is substituted or unsubstituted benzyl, wherein said substituents are selected from the group consisting of halogen, halo(C₁-C₄)alkyl, halo(C₁-C₄)alkoxy, cyano, nitro and phenyl.

142. (Previously Added) The compound of Claim 136, wherein R¹⁴ is selected from the group consisting of substituted phenyl, substituted pyridyl, substituted thiazolyl and substituted thienyl, wherein the substituents are selected from the group consisting of cyano, halogen, (C₁-C₈)alkoxy, (C₁-C₈)alkyl, (C₂-C₈)heteroalkyl, CONH₂, methylenedioxy and ethylenedioxy.

143. (Previously Added) The compound of Claim 136, wherein R¹⁴ is substituted phenyl, wherein the substituents are selected from the group consisting of cyano, halogen, (C₁-C₈)alkoxy, (C₁-C₈)alkyl, (C₂-C₈)heteroalkyl, CONH₂, methylenedioxy and ethylenedioxy.

144. (Previously Added) The compound of Claim 136, wherein R^4 is substituted or unsubstituted benzyl, wherein said substituents are selected from the group consisting of halogen, halo(C_1 - C_4)alkyl, halo(C_1 - C_4)alkoxy, cyano, nitro and phenyl, and R^{14} is substituted phenyl, wherein the substituents are selected from the group consisting of cyano, halogen, (C_1 - C_8)alkoxy, (C_1 - C_8)alkyl, (C_2 - C_8)heteroalkyl, $CONH_2$, methylenedioxy and ethylenedioxy.

145. (Previously Added) The compound of Claim 136, wherein R^1 is selected from the group consisting of methyl, ethyl and propyl, and R^2 is hydrogen.

146. (Previously Added) The compound of Claim 136, wherein R^1 and R^2 are each methyl.

147. (Previously Added) The compound of Claim 136, wherein L is (C_1 - C_4)alkylene.

148. (Previously Added) The compound of Claim 136, wherein R^3 is a member selected from the group consisting of (C_1 - C_8)alkoxy, (C_3 - C_9)heterocyclyl and heteroaryl.

149. (Previously Added) The compound of Claim 136, wherein R^3 is heteroaryl.

150. (Previously Added) The compound of Claim 136, wherein R^3 is heteroaryl and R^4 is substituted or unsubstituted benzyl, wherein said substituents are selected from the group consisting of halogen, halo(C_1 - C_4)alkyl, halo(C_1 - C_4)alkoxy, cyano, nitro and phenyl.

151. (Previously Added) The compound of Claim 136, wherein R^3 is selected from the group consisting of substituted or unsubstituted pyridyl and substituted or unsubstituted imidazolyl.

152. (Previously Added) The compound of Claim 136, wherein R^1 and R^2 are each independently selected from the group consisting of H, methyl and ethyl; R^{14} is phenyl; L is methylene, ethylene or propylene; R^3 is selected from the group consisting of substituted or unsubstituted pyridyl and substituted or unsubstituted imidazolyl; and R^4 is substituted or

unsubstituted benzyl, wherein said substituents are selected from the group consisting of halogen, halo(C₁-C₄)alkyl, halo(C₁-C₄)alkoxy, cyano, nitro and phenyl.

153. (Previously Added) A pharmaceutical composition comprising the compound of Claim 136 and a pharmaceutically acceptable carrier or diluent.

154. (Currently Amended) A method of treating psoriasis, rheumatoid arthritis, inflammatory bowel disease, asthma, organ transplant conditions, or multiple sclerosis ~~an inflammatory or immune condition or disease~~ in a subject, said method comprising administering to a subject in need of such treatment a therapeutically effective amount of the compound of Claim 136.

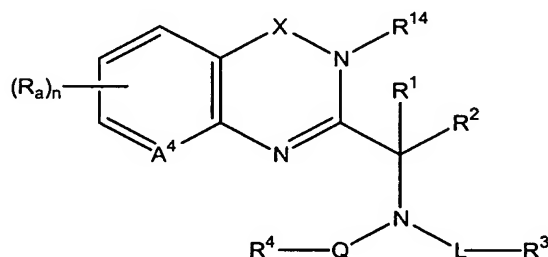
155. (Previously Added) The method of Claim 154, wherein said compound is administered orally, parenterally or topically.

156.-202. (Canceled).

203. (Previously Added) A method for the modulation of CXCR3 function in a cell, comprising contacting said cell with a compound of Claim 136.

204. (Previously Added) A method for the modulation of CXCR3 function, comprising contacting a CXCR3 protein with a compound of Claim 136.

205. (New) A compound having the formula:



or a pharmaceutically acceptable salt thereof wherein:

A^4 is N;

X is $-C(O)-$ or $-CH_2-$;

R^1 and R^2 are members independently selected from the group consisting of H and (C₁-C₄)alkyl;

R³ is a member selected from the group consisting of hydroxy, (C₁-C₈)alkoxy, amino, (C₁-C₈)alkylamino, di(C₁-C₈)alkylamino, (C₂-C₈)heteroalkyl, (C₃-C₉)heterocyclyl, (C₁-C₈)acylamino, amidino, guanidino, ureido, cyano, heteroaryl, -CONR⁹R¹⁰ and -CO₂R¹¹;

R⁴ is a member selected from the group consisting of (C₁-C₂₀)alkyl, (C₂-C₂₀)heteroalkyl, heteroaryl, aryl, heteroaryl(C₁-C₆)alkyl, heteroaryl(C₂-C₆)heteroalkyl, aryl(C₁-C₆)alkyl and aryl(C₂-C₆)heteroalkyl;

each R⁹, R¹⁰ and R¹¹ is independently selected from the group consisting of H, (C₁-C₈)alkyl, (C₂-C₈)heteroalkyl, heteroaryl, aryl, heteroaryl(C₁-C₆)alkyl, heteroaryl(C₂-C₈)heteroalkyl, aryl(C₁-C₈)alkyl and aryl(C₂-C₈)heteroalkyl;

R¹⁴ is substituted or unsubstituted aryl or heteroaryl;

Q is -C(O)-;

L is (C₁-C₈)alkylene;

the subscript n is an integer from 0 to 4; and

each R_a is independently selected from the group consisting of halogen, -OR', -OC(O)R', -NR'R'', -SR', -R', -CN, -NO₂, -CO₂R', -CONR'R'', -C(O)R', -OC(O)NR'R'', -NR''C(O)R', -NR''C(O)₂R', -NR'-C(O)NR''R''', -NH-C(NH₂)=NH, -NR'C(NH₂)=NH, -NH-C(NH₂)=NR', -S(O)R', -S(O)₂R', -S(O)₂NR'R'', -N₃, -CH(Ph)₂, perfluoro(C₁-C₄)alkoxy and perfluoro(C₁-C₄)alkyl, wherein R', R'' and R''' are each independently selected from the group consisting of H, (C₁-C₈)alkyl, (C₂-C₈)heteroalkyl, unsubstituted aryl, unsubstituted heteroaryl, (unsubstituted aryl)-(C₁-C₄)alkyl and (unsubstituted aryl)oxy-(C₁-C₄)alkyl.

206. (New) The compound of Claim 205, wherein X is -C(O)-.

207. (New) The pharmaceutical composition of Claim 153, wherein X is -C(O)-.

208. (New) The pharmaceutical composition of Claim 153, wherein R¹⁴ is a substituted or unsubstituted phenyl.

209. (New) The pharmaceutical composition of Claim 153, wherein R³ is (C₁-C₈)acylamino.

210. (New) The pharmaceutical composition of Claim 153, wherein R⁴ is substituted or unsubstituted benzyl, wherein said substituents are selected from the group consisting of halogen, halo(C₁-C₄)alkyl, halo(C₁-C₄)alkoxy, cyano, nitro and phenyl.

211. (New) The pharmaceutical composition of Claim 153, wherein R^{14} is selected from the group consisting of substituted phenyl, substituted pyridyl, substituted thiazolyl and substituted thienyl, wherein the substituents are selected from the group consisting of cyano, halogen, (C₁-C₈)alkoxy, (C₁-C₈)alkyl, (C₂-C₈)heteroalkyl, CONH₂, methylenedioxy and ethylenedioxy.
212. (New) The pharmaceutical composition of Claim 153, wherein R^{14} is substituted phenyl, wherein the substituents are selected from the group consisting of cyano, halogen, (C₁-C₈)alkoxy, (C₁-C₈)alkyl, (C₂-C₈)heteroalkyl, CONH₂, methylenedioxy and ethylenedioxy.
213. (New) The pharmaceutical composition of Claim 153, wherein R^4 is substituted or unsubstituted benzyl, wherein said substituents are selected from the group consisting of halogen, halo(C₁-C₄)alkyl, halo(C₁-C₄)alkoxy, cyano, nitro and phenyl, and R^{14} is substituted phenyl, wherein the substituents are selected from the group consisting of cyano, halogen, (C₁-C₈)alkoxy, (C₁-C₈)alkyl, (C₂-C₈)heteroalkyl, CONH₂, methylenedioxy and ethylenedioxy.
214. (New) The pharmaceutical composition of Claim 153, wherein R^1 is selected from the group consisting of methyl, ethyl and propyl, and R^2 is hydrogen.
215. (New) The pharmaceutical composition of Claim 153, wherein L is (C₁-C₄)alkylene.
216. (New) The pharmaceutical composition of Claim 153, wherein X is -C(O)-; R^1 and R^2 are each independently selected from the group consisting of H, methyl and ethyl; R^{14} is selected from the group consisting of substituted and unsubstituted phenyl; L is methylene, ethylene or propylene; R^3 is selected from the group consisting of substituted or unsubstituted pyridyl and substituted or unsubstituted imidazolyl; and R^4 is substituted or unsubstituted benzyl, wherein said substituents are selected from the group consisting of halogen, halo(C₁-C₄)alkyl, halo(C₁-C₄)alkoxy, cyano, nitro and phenyl.
217. (New) The method of Claim 154, wherein X is -C(O)-.

218. (New) The method of Claim 154, wherein R^{14} is a substituted or unsubstituted phenyl.
219. (New) The method of Claim 154, wherein R^3 is (C_1-C_8) acylamino.
220. (New) The method of Claim 154, wherein R^4 is substituted or unsubstituted benzyl, wherein said substituents are selected from the group consisting of halogen, halo(C_1-C_4)alkyl, halo(C_1-C_4)alkoxy, cyano, nitro and phenyl.
221. (New) The method of Claim 154, wherein R^{14} is selected from the group consisting of substituted phenyl, substituted pyridyl, substituted thiazolyl and substituted thienyl, wherein the substituents are selected from the group consisting of cyano, halogen, (C_1-C_8) alkoxy, (C_1-C_8) alkyl, (C_2-C_8) heteroalkyl, $CONH_2$, methylenedioxy and ethylenedioxy.
222. (New) The method of Claim 221, wherein R^{14} is substituted phenyl, wherein the substituents are selected from the group consisting of cyano, halogen, (C_1-C_8) alkoxy, (C_1-C_8) alkyl, (C_2-C_8) heteroalkyl, $CONH_2$, methylenedioxy and ethylenedioxy.
223. (New) The method of Claim 154, wherein R^4 is substituted or unsubstituted benzyl, wherein said substituents are selected from the group consisting of halogen, halo(C_1-C_4)alkyl, halo(C_1-C_4)alkoxy, cyano, nitro and phenyl, and R^{14} is substituted phenyl, wherein the substituents are selected from the group consisting of cyano, halogen, (C_1-C_8) alkoxy, (C_1-C_8) alkyl, (C_2-C_8) heteroalkyl, $CONH_2$, methylenedioxy and ethylenedioxy.
224. (New) The method of Claim 154, wherein R^1 is selected from the group consisting of methyl, ethyl and propyl, and R^2 is hydrogen.
225. (New) The method of Claim 154, wherein L is (C_1-C_4) alkylene.
226. (New) The method of Claim 154, wherein X is $-C(O)-$; R^1 and R^2 are each independently selected from the group consisting of H, methyl and ethyl; R^{14} is selected from the group consisting of substituted and unsubstituted phenyl; L is methylene, ethylene or propylene; R^3 is selected from the group consisting of substituted or unsubstituted pyridyl

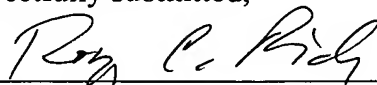
and substituted or unsubstituted imidazolyl; and R⁴ is substituted or unsubstituted benzyl, wherein said substituents are selected from the group consisting of halogen, halo(C₁-C₄)alkyl, halo(C₁-C₄)alkoxy, cyano, nitro and phenyl.

CONCLUSION

No fees are believed due with this paper. However, the Commissioner is authorized to charge any necessary fees to U.S. Deposit Account No. 16-1150 (order no. 11134-005-999) that may be required in connection with this submission.

Respectfully submitted,

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